WHAT IS CLAIMED IS:

1. A DC/DC converter that converts an input voltage to an output voltage and includes a transformer having a primary side and a secondary side, comprising:

a primary side bridge rectifier that communicates with the primary side and includes a first leg that is connected across said input voltage and includes a first switching circuit and a second switching circuit, and a second leg that is connected across said input voltage and that includes a third switching circuit and a fourth switching circuit;

a switch controller that employs zero voltage switching (ZVS) to control said third and fourth switching devices and hard switching to control said first and second switching devices.

2. The DC/DC converter of Claim 1 wherein said switch controller turns off said fourth switching device with ZVS, turns said third switching circuit on with ZVS and turns said first switching circuit off with hard switching during a first half cycle.

3. The DC/DC converter of Claim 1 wherein said controller turns said second switching circuit on with hard switching, turns said third switching circuit off with ZVS, turns said fourth switching circuit on with ZVS and turns said second switching circuit off with hard switching during a second half cycle.

4. The DC/DC converter of claim 1 wherein said controller turns off said fourth switching device with ZVS, turns said third switching circuit on with ZVS and turns said first switching circuit off with hard switching during a first half cycle and wherein said controller turns said second switching circuit on with hard switching, turns said third switching circuit off with ZVS, turns said fourth switching circuit on

with ZVS and turns second switching circuit on with hard switching during a second half cycle.

5. The DC/DC converter of claim 4 wherein said first switching circuit includes a first transistor having a first gate and a first diode that is connected antiparallel to said transistor.

6. The DC/DC converter of claim 5 wherein said second switching circuit includes a second transistor having a second gate and a second diode that is connected antiparallel to said transistor.

7. The DC/DC converter of claim 6 wherein said third switching circuit includes a third transistor having a third gate and a third diode that is connected antiparallel to said transistor and a first capacitor that is connected in parallel with said third diode.

8. The DC/DC converter of claim 7 wherein said fourth switching circuit includes a fourth transistor having a fourth gate and a fourth diode that is connected antiparallel to said transistor and a second capacitor that is connected in parallel with said diode.

9. The DC/DC converter of claim 8 wherein when said fourth switching device turns off during said first half cycle, said second capacitor is charged and said first capacitor is discharged.

10. The DC/DC converter of claim 9 wherein said third switching device is turned on after said first capacitor discharges.

11. The DC/DC converter of claim 10 wherein said first switching device is turned off when said third switching device is turned on.

12. The DC/DC converter of claim 8 wherein said third switching device is turned off after said second switching device is turned on during said second half cycle.

13. The DC/DC converter of claim 13 wherein said first capacitor charges and said second capacitor discharges when said third switching device is turned off.

14. The DC/DC converter of claim 13 wherein said fourth switching device is turned on when said second capacitor is discharged.

15. A method for operating a DC/DC converter including a primary side bridge rectifier with a first leg that is connected across said input voltage and includes a first switching circuit and a second switching circuit, and a second leg that is connected across said input voltage and that includes a third switching circuit and a fourth switching circuit, comprising:

during an first half cycle:

turning on said first switching circuit on with hard switching;

turning off said fourth switching device with zero voltage switching (ZVS);

turning said third switching circuit on with said ZVS; and

turning said first switching circuit off with hard switching.

16. The method of claim 15 further comprising:

during a second half cycle:

turning said second switching circuit on with hard switching;

turning said third switching circuit off with said ZVS;

turning said fourth switching circuit on with said ZVS; and turning said second switching circuit off with hard switching.

17. A DC/DC converter comprising:

a first leg;

a second leg; and

a controller that employs hard switching in the first leg to reduce conduction loss and zero voltage in the second leg to reduce switching loss.

18. The DC/DC converter of Claim 17 further comprising a transformer that communicates with said first and second legs and that includes a primary side and a secondary side.

19. The DC/DC converter of Claim 17 further comprising an input voltage source, wherein said first leg is connected across said input voltage source and includes a first switching circuit and a second switching circuit.

20. The DC/DC converter of Claim 19 wherein said second leg is connected across said input voltage and includes a third switching circuit and a fourth switching circuit, wherein said controller employs zero voltage switching (ZVS) to control said third and fourth switching devices and hard switching to control said first and second switching devices.